

UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

Project

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TITLE

STATUS OF THE MOUNTAIN PINE BEETLE
INFESTATION IN LODGEPOLE PINE ON THE
GRAND TETON NATIONAL PARK

1940

by
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In 1940 the project to control the infestation of the mountain pine beetle in lodgepole pine by the use of penetrating sprays was continued. Control work by that means was begun in 1939, but unforeseen difficulties prevented completion of the work that year and the untreated trees produced enough brood to infest about 1,100 trees in the summer of 1939.

In 1940 the control project was begun the week of June 10 with training of the new enrollees. By the end of the week, under the supervision of Mr. T. F. Terrell, the project was functioning smoothly, but on June 18 the CCC enrollee treating crews were sent to fires in Yellowstone Park, leaving but three men on the control project. From then until the project was discontinued shortly after mid-July, change of personnel and fires so hampered the work that for the second successive year only part of the infestation was treated.

In general the treating was well done, but the difficulties encountered in spraying trees standing to a height of 30 feet were reflected in an occasional missed or inadequately sprayed spot at the upper limits of height that could be reached by that method. Survival of infesting brood was normal or only partly reduced in such spots. The experimental project on the Wasatch National Forest during the past year indicated the advantage of felling the infested trees before spraying. This method could be used to advantage on the Grand Teton Park project, as much of that infestation is in tall trees having an infested length greater than 30 feet.

Control work in the past two seasons has been initiated near the park headquarters, progressing from there south and west. This has resulted in decidedly reducing the number of infested trees in the vicinity of headquarters, although some reinestation has occurred. Moving the center of the infestation further away from the living center has probably served to decidedly reduce losses in the aesthetically valuable timber in that area.

If the project is continued, it is suggested that due to the possibility of an emergency again preventing completion of the project, future control be initiated in the most heavily infested area. By so doing the "hot spots" of infestation will be treated first and the greatest amount of result secured for the expenditure involved.

During the period from September 25 to October 1 of 1940, 32 miles of strip were run in the lodgepole pine stands of the Grand Teton Park in the vicinity of the Windy Point area. From these strips the boundary and amount of the mountain pine beetle infestation were established. To become better acquainted with the habits of the bark beetle and the extent of the outbreak, Park Ranger Seine accompanied the Bureau representative during two days of the survey.

A comparison of the amount and area covered by the infestation in the last three years is shown in table 1.

Table 1 - Mountain pine beetle infestation in
lodgepole pine in Grand Teton Park,
1938-1940

	Data for		
	1938	1939	1940
Total trees attacked	1,858	1,120	1,188*
Infestation per acre (on 1,920-acre basis)	.97	.58	.62*
Acreage on which infesta- tion is concentrated	1,920	1,050	1,650

* Includes trees (170) that have been pitched out
and would not be treated.

From the preceding data it is seen that there are now approx-
imately 1,800 infected trees on the unit, concentrated, however, on
about 1,650 acres. The most heavily infested part of the unit is again
near Windy Point, although more to the southwest than in the preceding
two years.

From an analysis of the data in table 2 it is seen that the
character of the attacks differs little from 1939. The slight increase
in pitched-out attacks cannot be considered a significant difference
but merely the normal variation that can be expected from a small amount
of data. Any decided change in the proportion of green-sided and pitched-
out trees to the total number attacked is believed to indicate a change
in aggressiveness of an infestation. The increase from 1938 to 1939 in
these partially attacked trees probably indicated a decrease in
aggressiveness of the outbreak. The analysis of the data for the
three years is given in table 2.

Table 2 - Comparison of intensity of attack of mountain pine beetle in lodgepole pine from 1938 to 1940, Grand Teton Park

Year	Pitched-out attacks	Green-sided attacks	Trees killed	Number of trees on which data are based
1938	?	10%	90%	50
1939	10%	40%	50%	124
1940	14%	36%	50%	105

* No record was kept of pitched-out trees in 1938, as they were not treated. Undoubtedly some were present, which would slightly decrease the percent designated as killed and green-sided.

Scouting in other portions of the Grand Teton Park failed to reveal sufficient mountain pine beetle infestation to warrant control. The outline map which follows gives roughly the boundaries of the area supporting sufficient infestation to require treatment.

Mountain Pine Beetle in Lodgepole Pine - 1940
Grand Teton Park

UNITED STATES DEPARTMENT OF AGRICULTURE—FOREST SERVICE

Land district. Mag. declin.

Area 1650 acres

T.

R.

Mer. Scale

2 inches = 1 mile

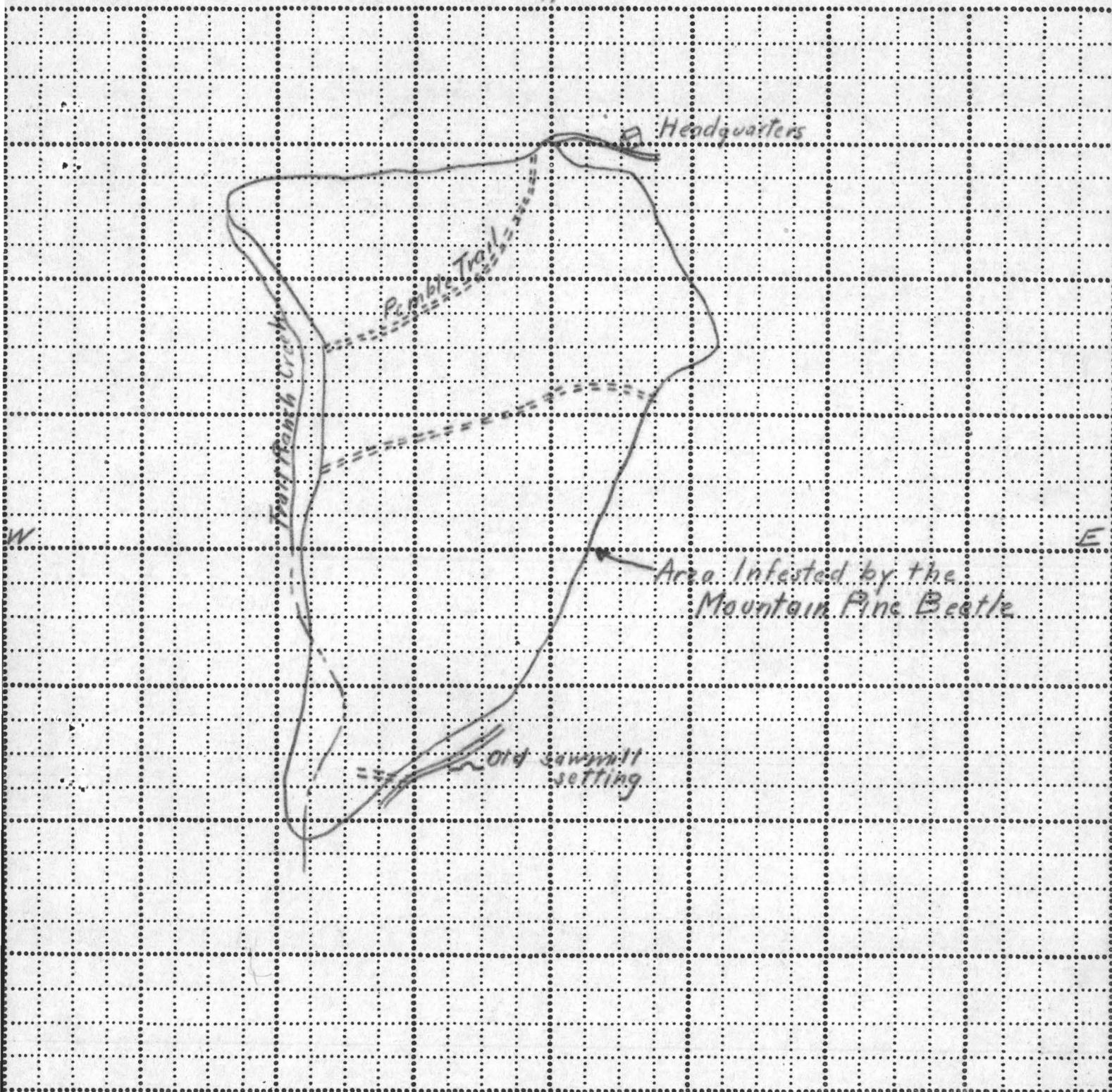
(Case designation)

(Subdivision and section)

N

W

E



Field work by _____ Date _____ Platted by _____

Remarks _____

Approved _____